



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/747,920

12/22/2000

Robert Hong Leung Chiang

10110

4434

7590

07/29/2004

William W. Habelt
Carrier Corporation
P.O. Box 4800
SYRACUSE, NY 13221

EXAMINER

ALI, MOHAMMAD M

ART UNIT

PAPER NUMBER

3744

DATE MAILED: 07/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/474,920

Applicant(s)

MARUO ET AL.

Examiner

Mohammad M Ali

Art Unit

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "screen mesh member" for claim 4, "slotted planer member" for claim 5 and "honeycomb structure" for claim 6 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Richard (2,525,560). Richard discloses a refrigerator R comprising insulated cabinet defining a product display

area/upper food chamber U and having a compartment/lower chamber L separate from product display area/upper chamber U; and air circulation circuit connecting the product display area/upper chamber U and the lower compartment L in air flow communication; an evaporator E disposed within the lower compartment L; at least one of air circulation fan/blower 58 disposed within the lower compartment L in laterally spaced relationship upstream of the evaporator E with respect to air flow; a partition 80 with plurality of flow openings, the partition with flow openings disposed in the air circulation circuit intermediate the evaporator and the fan/blower 58. Richard discloses the invention substantially as claimed as stated above including the flow baffle 80. See Fig. 7. The Examiner considers partition 80 with flow openings as a flow baffle. Alternatively, having a sheet or partition plate with flow openings in the name of a flow baffle is an obvious choice of the individual skilled in the art since there is no criticality or unexpected result from it.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Richard. Richard discloses the invention substantially as claimed as stated above. However, Richard does not disclose screen mesh structure at the inlet openings of the partition plate 80. But Richard teaches the use of screen mesh structure at the outlet 79a. See Fig. 7. Therefore, it would have been obvious to one having an ordinary skill in the art at the time the invention was made to modify the refrigerator of Richard in view of his own such that the openings at the inlet of the partition plate with screen mesh structure could be provided in order to have an alternative same purpose of even flow of air.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Richard in view of Bemisderfer et al., (5,062,475). Richard discloses the invention substantially as claimed as stated above. However, Richard does not disclose a fin density in the range of 6 fins per inch to 15 fins per inch. Bemisderfer et al. teach the use of 5 to 20 fins per linear inch with an evaporator coil in a refrigeration system for the purpose of having a desired airflow pattern. Therefore, it would have been obvious to one having an ordinary skill in the art at the time the invention was made to modify the refrigerator of Richard in view of Bemisderfer et al. such that a fin density in the range of 5 to 20 per inch could be provided in order to have a desired airflow pattern.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richard in view of Roberts (5,357,767). Richard discloses the invention substantially as claimed as stated above. However, Richard does not disclose slotted and honeycomb flow structure. Robert teaches the use of honeycomb inlet nozzle 29 having slotted structure in a refrigerated display air flow circuit for the purpose of even flow of air. See Fig. 2. Therefore, it would have been obvious to one having an ordinary skill in the art at the time the invention was made to modify the refrigerator of Richard in view of Robert such that a slotted and honeycomb air inlet structure with the partition plate of Richard could be provided in order to have an even flow of air.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Richard in view of Ibrahim (4,370,867). Richard discloses the invention substantially as claimed as stated above. However, Richard does not disclose a flow area of 15 to 40% of the nominal flow area. Ibrahim teaches the use of 40% flow area by restricting normal flow

Art Unit: 3744

area from 100% to 60% resulting 40% flow are in a refrigerated display air flow circuit for the purpose of increasing the air flow velocity. See column 6, lines 4-7. Therefore, it would have been obvious to one having an ordinary skill in the art at the time the invention was made to modify the refrigerator of Richard in view of Ibrahim such that the openings of the partition plate with 40% of the normal air flow area could be provided in order to have a desired air flow.

Any inquiry concerning this communication or earlier from the examiner should be directed to Mohammad M. Ali, whose telephone number is (703) 308-5032. The examiner can be reached from 6:10am to 4:30pm from Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Denise Esquivel, can be reached at (703) 308-2597. The fax number for the organization where this application or proceeding is assigned is 703-308-7764 for regular communications and after-final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.


Mohammad M. Ali

July 26, 2004